

REMARKS

The Office Action mailed on September 6, 2005 has been received and its contents have been carefully considered. The Examiner is thanked for the thorough examination of this application, and the indication that claims 2-4 and 10-12 contain allowable subject matter. Applicants submit this amendment and response to place all pending claims of this application in condition for allowance.

In this Amendment, Applicants have amended the specification and claims 7 and 15-16, and cancelled claims 1-6. New claims 29-36 are added for further protection. Claims 7 and 16 are the independent claims. Claims 7, 10-18 and 29-36 are now pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The specification has been objected to for various informalities. In response thereto, the specification has been editorially amended to correct the informalities noted by the Examiner, as well as other informalities noted during the review. Thus, the objections have been addressed and should be withdrawn.

Claim 15 was been rejected under 35 U.S.C. 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Office Action stated that certain terms of claim 15 lacked antecedent basis and that the claims was unclear for "the (top/bottom) superficial measure" in the claims. Accordingly, changes to the claims were made for clarifying purposes, in response to the Examiner's indefiniteness rejections. Thus, the rejection should be withdrawn.

Claims 16-17 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by *Mansour*, *Mizuno et al.*, *Babbitt et al* or *Ishikawa*. Applicants respectfully submit that the rejection is inapplicable to the amended claim 16-17.

Turning now to the substantive rejections, it is well settled that a reference may anticipate a claim within the purview of 35 USC §102 only if all the features and all the relationships recited in the claim are taught by the reference either by clear disclosure or under the principle of inherency.

Applicants' amended independent claim 16 recites a substrate including at least: a first dielectric layer having an opening, a second dielectric layer within the opening, and a signal transmission line on the second dielectric layer. The first dielectric layer is **made of a high dielectric coefficient material**. The dielectric coefficient of the second dielectric layer is **smaller than the dielectric coefficient of the first dielectric layer**.

However, nowhere in any of the cited references *Mansour*, *Mizuno et al.*, *Babbitt et al* or *Ishikawa* is there any disclosure (or even suggestion) that the first dielectric layer is **made of a high dielectric coefficient material** or that the dielectric coefficient of the second dielectric layer is **smaller than the dielectric coefficient of the first dielectric layer**. As such, amended claim 16 is not anticipated (or rendered obvious) by the cited references. Accordingly, this rejection of claim 16 and its dependant claims 17 should be withdrawn.

Claims 1, 6 and 18 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by *Ishikawa*. Claims 1 and 6 have been cancelled, and the rejection of claim 18 is traversed. As claim 18 depends from independent claim 16, it is respectfully submitted that claim 18 is not anticipated (or render obvious) by *Ishikawa* for at least the reasons advanced above as to the amended independent claim 16. Therefore, the rejection is inapplicable to claim 18 and therefore should be withdrawn.

Claims 1 and 5 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by *Martel et al.* Because claims 1 and 5 have been canceled, it is respectfully submitted that the rejection of claims 1 and 5 has been rendered moot.

Claims 7, 13 and 14 were rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Martel et al.* in view of *Mansour*. Independent claim 7 has been amended, and it is submitted that the rejection is inapplicable to the amended claim 7 and claims 13 and 14 depending therefrom.

Applicants' amended independent claim 7 recites a high-frequency substrate, including at least: a first metal layer, a first dielectric layer, a second metal layer, a third dielectric layer, and a high-frequency signal transmission line. The first dielectric layer is on the first metal layer and made of a high dielectric coefficient material. The second metal layer is on the first dielectric layer and has a first opening. The third dielectric layer is within the first opening and on the second metal layer. The third dielectric layer is made of a low dielectric coefficient material, and a dielectric coefficient of the third dielectric layer is smaller than a dielectric coefficient of the second dielectric layer. The high-frequency signal transmission line is on the third dielectric layer.

In contrast, *Martel et al.* discloses an amplifier for high-frequency signals, including a ground conductor 1, conductors 2 and 3, and insulating materials 5 and 6. The conductor 1, 2 and 3 are insulated from each other by filling the spaces between the conductors with insulating materials 5 and 6. A first transmission line L1 is formed by the ground conductor 1 and the conductor 2, and a second transmission line L2 is formed by the conductor 2 and the conductor 3. (Col. 3, line 4 to Col. 4, line 22; and FIG. 1)

The Office Action admits that *Martel et al.* differ from the claimed invention in that it lacks an opening in the third dielectric substrate where a signal transmission line is disposed. Instead, the Office Action points to *Mansour* as allegedly teaching that a substrate with a transmission line is disposed in a corresponding opening of a dielectric substrate. Applicants respectfully disagree. Specifically, Applicants submit that there is no disclosure or even a suggestion from *Martel et al.* alone nor in combination with *Mansour* that a dielectric coefficient of the third dielectric layer is smaller than a dielectric coefficient of the second dielectric layer, as recited in claim 7.

As such, amended claim 7 is patentable over the cited references, and the rejection of claim 7 and its dependant claims 13-14 accordingly should be withdrawn.

Moreover, claims 8-9 and 19-20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected species. At any rate, claims 8-9 and 19-20 depend from claim 7 and thus should be allowed along with claim 7. In this regard, it is submitted that the requirement of election of species be withdrawn.


Based on the above, it is submitted that this application is in condition for allowance and such a notice, with allowed claims 7-20 and 29-36, earnestly is solicited.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is hereby invited to telephone the undersigned counsel to arrange for such a conference.

No fee is believed to be due in connection with this Amendment and Response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

By:



Daniel R. McClure, Reg. No. 38,962

Thomas, Kayden, Horstemeyer & Risley, LLP
100 Galleria Pkwy, NW
Suite 1750
Atlanta, GA 30339
770-933-9500